

REMARKS

Claims 1-3 are pending in the above-identified application. Claims 4-22 having been withdrawn pursuant to a restriction requirement issued on July 16, 2007.

In the Final Office Action dated February 6, 2008, the Examiner rejected claims 1-3.

With this Amendment, claims 1 and 2 were amended for clarification and to correct minor errors and punctuation. Support for the amendment to claim 2 can be found in the Specification on at least page 20. No new matter has been introduced as a result of these amendments.

Accordingly, claims 1-3 are at issue.

I. 35 U.S.C. § 103 Obviousness Rejection of Claims

Claims 1-3 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomioka et al., (U.S. Patent No. 6,517,199) in view of Schut (U.S. Patent No. 6,281,269) and in further view of Karl et al. (U.S. 2003/0041777) and Arita et al. (U.S. Patent No. 6,899,751). Applicant respectfully traverses this rejection.

The claims require a liquid composition that contains a hydrophobic colloid that is separate from the pigment and has a positive zeta potential when the pH of the composition is over 4 and under 6. Specification, Page 6. Furthermore, the hydrophobic colloid prevents elution of silicon or a silicon compound from a surface that is in contact with the liquid component into the liquid composition. Specification, Page 6.

Tomioka et al. teaches a liquid composition used to improve recording images. Tomioka et al., Col. 3, lines 53-55. Specifically, Tomioka et al. teaches a charged liquid composition, which effectively absorbs a coloring material contained in an ink to prevent excessive penetration of the coloring material into the recording medium. Tomioka et al., Col. 9, lines 44-48; Col. 10, line 65 - Col. 11, line 2; Col. 14, lines 45-49. The charge of the liquid composition is

opposite of the charge polarity of the ink and therefore can be either anionic or cationic. Col. 9, lines 44-48. Additionally, Tomioka et al. teaches that pigment dispersants, in the aqueous ink, can contain hydrophobic monomers. Col. 17, lines 25-32; Col. 21, lines 40-45. Tomioka et al. does not teach or even fairly suggest that the charged liquid composition adheres to a surface that is in contact with the liquid composition as required by the claims. Furthermore, Tomioka et al. does not teach or even fairly suggest that the charged liquid component contains a hydrophobic colloid because Tomioka et al. specifically teaches that a pigment dispersant contains a hydrophobic monomer. As discussed above, the claims require the hydrophobic colloid to be separate from the pigment. As such, the claims are patentable over Tomioka et al. either taken singularly or in combination with the cited prior art. Accordingly, Applicant respectfully requests that the above rejection be withdrawn.

Schut teaches a reactive fluid that contains a component that reacts with a component in an ink thereby causing an improved image. Schut, Col. 1, lines 7-10, 29-34, 39-50. The reactive components in the reactive fluid include pH, precipitating agents and/or charges. Schut, Col. 5, lines 5-9, 15-19, 20-23. In order to achieve an improved image when pH is the reactive component, the pH range of the reactive fluid is directly related to the pH range of the ink. Col. 5, lines 5-10; Col. 7, lines 5-10. As such, Schut does not teach or even fairly suggest a pH range of 3-6 for the reactive fluid, unless the ink used in the reaction has a pH range of 8-10. As discussed above, the claims require a pH range of between 4 and 6 regardless of the pH of the pigment. Furthermore, Schut does not teach or even fairly suggest that the reactive fluid or the reactive ink solve the problem of silicon or silicon oxide elution. In fact, the elution from silicon into the ink increases when the ink pH is greater than 7, which as taught by Schut is the preferred pH range of the ink. Specification, Page 3. As such, the claims are patentable over Shut either

taken singularly or in combination with the cited prior art. Accordingly, Applicant respectfully requests that the above rejection be withdrawn.

Karl et al. teaches an ink that results in higher optical density and water resistance containing at least one pigment mixed with at least one compound, selected from the group of pyrogenic silicic acid, hydrophobized pyrogenic silicic acid, mixed oxides or pyrogenic aluminium oxides, with a mean particle size that is greater than 50 nm. Karl et al., Paragraph [0007], [0008], [0016]. Karl et al. does not teach or even suggest that the pigment is separate from the compound as required by the claims. Furthermore Karl et al. does not teach or even suggest a solution to the silicon or silicon oxide elution problem discussed above. As such, the claims are patentable over Karl et al. either taken singularly or in combination with the cited prior art. Accordingly, Applicant respectfully requests that the above rejection be withdrawn.

Arita et al. teaches that the elution of silicon and silicon oxide can be prevented by reducing the total content of alkali metals in an ink and by adding a corrosion inhibitor to an ink. Arita et al., Col. 3, lines 23-29. The addition of a corrosion inhibitor to an ink without a reduction in alkali metal content only suppresses the elution of silicon and silicon oxide. Arita et al., Col. 10, lines 3-13. Unlike the claims, Arita et al. does not teach or even fairly suggest that the elution of silicon and silicon oxide can be prevented by the addition of a corrosion inhibitor alone. Arita et al. specifically teaches that a reduction in alkali metal content and a corrosion inhibitor prevent elution, but that if not practiced in combination the elution is merely suppressed. As such, the claims are patentable over Arita et al. either taken singularly or in combination with the cited prior art. Accordingly, Applicant respectfully requests that the above rejection be withdrawn.

II. Conclusion

In view of the above amendments and remarks, Applicant submits that all claims are clearly allowable over the cited prior art, and respectfully requests early and favorable notification to that effect.

Respectfully submitted,

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